DETAILED ACTION

Priority

Applicant is reminded that in order for a patent issuing on the instant application to obtain the benefit of priority based on priority papers filed in parent Application No. PCT/KR04/03394 under 35 U.S.C. 119(a)-(d) or (f), a claim for such foreign priority must be timely made in this application. To satisfy the requirement of 37 CFR 1.55(a)(2) for a certified copy of the foreign application, applicant may simply identify the application containing the certified copy.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 14 June 2006 is noted. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Howe (1,266,472) in view of Culjak (WO 02/29248 A1) and Williamson (4,174,923). Howe

discloses a wind turbine elevated on a support structure having a support plate, i.e. main framework, mounted thereto (See Fig. 1). Howe includes a rotational shaft (4a) connected to an auxiliary sprocket (19) by a driving chain (20) that is also connected to the power generating means. The power generating means (5,6) are installed on the support plate, i.e. main framework, and including a plurality of sail structures (27). The power generating means include driving and guiding shafts and an open steel framework including a plurality of columns between base and cover frames (See Figs 1-3). Howe also discloses guide rails (30) that are spaced apart from one another in the vertical direction and define closed loops which surround the driving shaft such that the sail structures can be moved along the guide rails (30) by wind force and rotate the sprocket chains (16) that are messed with the sprocket of the driving shaft. Howe utilizes two symmetrical power generating means (5,6) that are installed such that they have a predetermined slope with respect to a transverse center line of the support plate (See Fig. 1).

However, Howe does not disclose the use of a support structure in the form of a steel tower. Williamson discloses a wind turbine mount including a steel tower (10) including longitudinal (18) and transverse (20) pieces to support a wind turbine structure (Williamson column 2, lines 3-6). The use of such structures is well known in the art of wind turbines to elevate the turbine thereby exposing the turbine to better wind conditions. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the turbine of Howe by utilizing a steel tower

support as evidenced by Williamson for the purpose of elevating the turbine such that it is exposed to more favorable wind conditions.

Also, Howe does not discloses the use of sail structures each of which can be adjusted in its wind pressure acting area by means of a geared motor and a coil spring. Culjak discloses sail structures (7) for use as wind power generating means that include a geared motor (19) (See Culjak page 2, lines 61-64) and a spring (15) that cooperated with each of the sail structures so as to wind or unwind the sails thereby adjusting the wind pressure acting area of each sail. This allows the sails of Culjak to be retracted in high wind conditions thereby preventing damage due to storms (Culjak page 2, lines 40-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the sail structures of Howe by utilizing a geared motor and spring arrangement as taught by Culjak for the purpose preventing damage of the turbine due to storms.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Howe (1,266,472) in view of Culjak (WO 02/29248 A1) and Williamson (4,174,923) as applied to claim 1 above, and further in view of Patton (4,494,008). Howe discloses the invention substantially as claimed except for the use of a wind direction changing plate. Patton discloses a wind turbine including two endless-chain sail type power generating means (11) that are mounted symmetrically to one another and at a predetermined slope to the support plate (17). Patton also includes a wind direction changing plate (69) installed in front of the power generating means such that the direction of the wind which blows toward the gap between the two power generating means is directed

toward the ail structure which are positioned toward the outside of he power generating means to fully harness the force of the incoming wind (Patton column 3, lines 9-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the turbine of Howe by including a wind changing plate as taught by Patton for the purpose of fully harnessing the force of the incoming wind.

Allowable Subject Matter

Claims 2-8 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The instant invention is deemed to be a non-obvious improvement over the invention of U.S. Pat. No. 1,266,472.

In regard to claims 2,4,5,7,8 and 10, the improvement comprises the use of specific sail structure and frame as defined by the claim.

Claims 4,5,7,8 and 10 would be allowable due to their dependency from claim 2.

In regard to claim 3, the improvement comprises the use of a brake block having the specific arrangement of rollers, motor, shaft and chains as defined by the claim.

In regard to claim 6, the improvement comprises the use of a slack prevention part that is integrally formed adjacent to the lower end of each guide rail.

The specific elements identified above are not know nor would they have been obvious from the prior art.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent issued to Storm discloses wind sails that maybe furled or retracted under high wind conditions. The patent issued to Davis discloses wind turbine mounted atop a tower utilizing two symmetrical endless chain sail type wind turbines.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHANIEL WIEHE whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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